U.S. Department of Energy
Office of River Protection
P.O. Box 450
Richland, Washington 99352

03-TPD-042

APR 2 9 2003

Mr. Michael A. Wilson, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
1315 W. Fourth Avenue
Kennewick, Washington 99336

Dear Mr. Wilson:

INTERIM STABILIZATION (IS) OF TANK 241-U-111

On February 17, 2003, pumping in tank 241-U-111 was automatically stopped when the pump failed. The pump is not easily accessible and is in a contaminated area with a high radiation level. Because pumping in the tank is very near the end of the IS process, an evaluation was made to determine if it meets the criteria for completion due to equipment failure as specified in the Single-Shell Tank Interim Stabilization Consent Decree No. CT-99-5076-EFS. This documents that tank 241-U-111 has met interim stabilization criteria due to equipment failure.

For IS, the Consent Decree criteria are: (a) less than 50,000 gallons of drainable interstitial liquid, (b) less than 5,000 gallons of supernatant liquid, and (c) if jet pumping is used, the pump flow must be at 0.05 gallons per minute or less before pumping is discontinued. If a major equipment failure occurs at a tank that meets criteria (a) and (b), then U.S. Department of Energy, Office of River Protection (ORP) may, after consulting with Ecology, consider the tank interim stabilized.

Specific information supporting this determination for tank 241-U-111 follows. More than 85,000 gallons of liquid waste have been removed. The total estimated volume of liquid remaining in the tank is less than 10,000 gallons, considerably below the 50,000 gallons of criterion (a) above. This value is determined by measurement of the liquid level inside the saltscreen and by the level obtained in the liquid observation well. Supernatant liquid is determined by estimation of the volume of liquid and is sometimes observed as small pools shown by videos on the surface of the tank. In this tank, there was no liquid observed either as pools or in the cavity around the saltwell screen. It is, therefore, well below the 5,000 gallons of criterion (b) above. The pumping rate during the last week of pumping was 0.12 gallons per minute. Although this is above the criterion (c) rate, it is consistent with the later stages of pumping and indicates that little pumpable volume remains.

This is considered a major equipment failure because criteria (a) and (b) were met and the repair cost and estimated personnel exposure to radiation while doing the repair work are significant. The cost was estimated to be more than $100,000. The total exposure is estimated to be more

than 500 millirem to make the repair in the contaminated pit. The risk presented by the radiation exposure would be greater than the risk represented by the pumpable liquid remaining in the tank. A briefing and discussion was held with Nancy Uziemblo of Ecology on April 17, 2003 to discuss the criteria for major equipment failure for tank 241-U-111 and it was agreed that the criteria are met.

If you have any questions, please contact me, or your staff may contact Andy Stevens, Tank Farms Programs and Projects Division, (509) 376-8235.

Sincerely,

James E. Rasmussen, Director
Environmental Division

TPD:AJS

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